11-160

PTO-1542
(4-85)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ONLINE SEARCH REQUEST FORM

USER Gary L. Kunz SERIAL NUMBER 07/652,978

92 NOV 12 PM 3:00
US PAT. & TM OFF

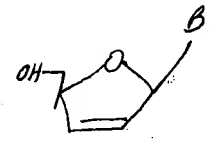
ART UNIT 1803 PHONE x 4623 DATE 11/10/92

Please give a detailed statement of requirements. Describe as specifically as possible the subject matter to be searched. Define any terms that may have special meaning. Give examples or relevant citations, authors, or keywords, if known.

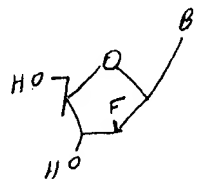
You may include a copy of the broadest and or relevant claim(s).

B/S. SEARCH

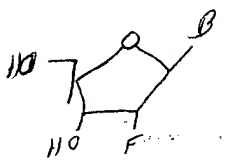
B = CYTIDINE OR THYMINE



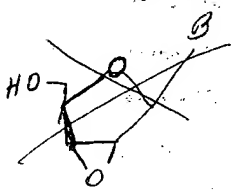
B = GUANINE, ADENINE, CYTOSINE, OR AZIRIDINYLCYTOSINE



B = GUANINE, ADENINE, CYTOSINE THYMINE, OR AZIRIDINYLCYTOSINE



~~B~~



65
116 ref.

STAFF USE ONLY

COMPLETED 11-16-92
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ONLINE TIME _____ TOTAL TIME _____
(in minutes)
NO. OF DATABASES _____

SYSTEMS
X CAS ONLINE
___ DARC/QUESTEL
___ DIALOG
___ SDC
___ OTHER

KUNZ 652978

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FILE 'REGISTRY' ENTERED AT 11:53:30 ON 16 NOV 92
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
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STRUCTURE FILE UPDATES:  13 NOV 92   HIGHEST RN 144489-44-1
DICTIONARY FILE UPDATES: 15 NOV 92   HIGHEST RN 144489-44-1

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L1                STR
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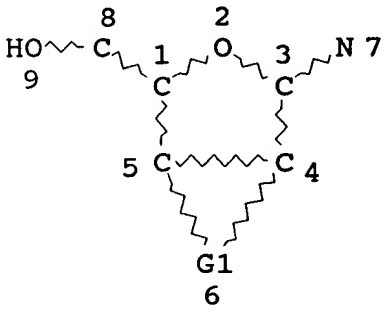


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VAR G1=N/O
NODE ATTRIBUTES:
NSPEC    IS R       AT    7

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9
L2            77 SEA FILE=REGISTRY SSS FUL L1

100.0% PROCESSED   6668 ITERATIONS                          77 ANSWERS
SEARCH TIME: 00.00.28


=> d que stat l7
L3                STR
L4   (         77)SEA FILE=REGISTRY SSS FUL L3
L5                STR
L6   (         65)SEA FILE=REGISTRY SUB=L4 SSS FUL L5
L7            12 SEA FILE=REGISTRY L4 NOT L6

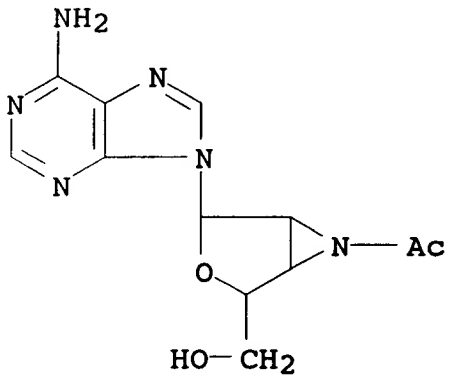
=> d his l8

     (FILE 'REGISTRY' ENTERED AT 11:52:05 ON 16 NOV 92)
                ---------
L8            65 S L2 NOT L7

=> d l7 ide can 1-12

L7   ANSWER 1 OF 12  COPYRIGHT 1992 ACS
```

RN 143992-85-2 REGISTRY
CN 3-Oxa-6-azabicyclo[3.1.0]hexane-2-methanol, 6-acetyl-4-(6-amino-9H-purin-9-yl)-, [1R-(1.alpha.,2.beta.,4.beta.,5.alpha.)]- (9CI) (CA INDEX NAME)
MF C12 H14 N6 O3
SR CA
DES 5:B-D-LYXO

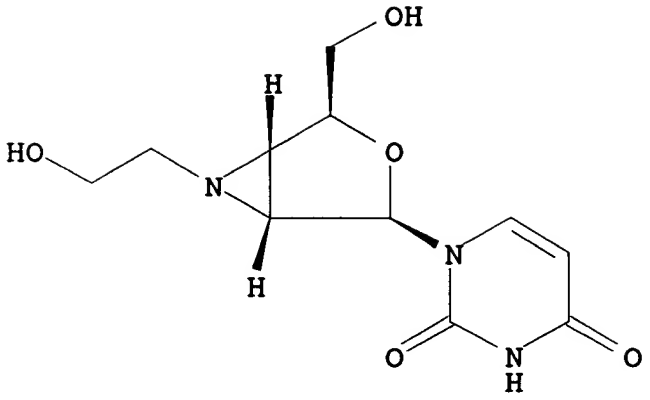


0 REFERENCES IN FILE CA (1967 TO DATE)

L7 ANSWER 2 OF 12 COPYRIGHT 1992 ACS
RN 129928-85-4 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[6-(2-hydroxyethyl)-4-(hydroxymethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C11 H15 N3 O5
SR CA
LC CA
DES *

Absolute stereochemistry.

KUNZ 652978

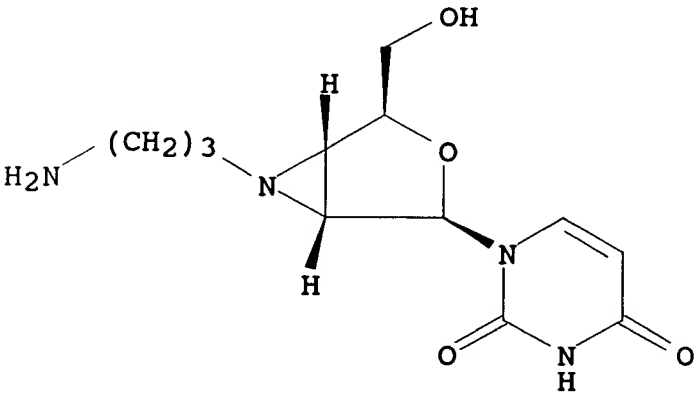


1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA113(21):191825g

L7 ANSWER 3 OF 12 COPYRIGHT 1992 ACS
RN 129928-77-4 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[6-(3-aminopropyl)-4-(hydroxymethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C12 H18 N4 O4
SR CA
LC CA
DES *

Absolute stereochemistry.

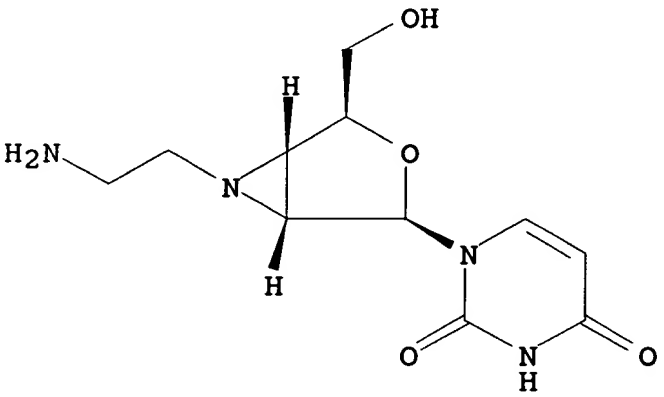


1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA113(21):191825g

L7 ANSWER 4 OF 12 COPYRIGHT 1992 ACS
RN 129928-74-1 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[6-(2-aminoethyl)-4-(hydroxymethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C11 H16 N4 O4
SR CA
LC CA
DES *

Absolute stereochemistry.



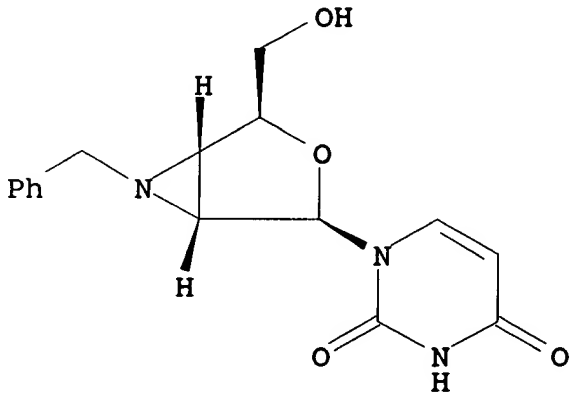
1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA113(21):191825g

L7 ANSWER 5 OF 12 COPYRIGHT 1992 ACS
RN 125418-20-4 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[4-(hydroxymethyl)-6-(phenylmethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C16 H17 N3 O4
SR CA
LC CA, CASREACT
DES *

Absolute stereochemistry.

KUNZ 652978

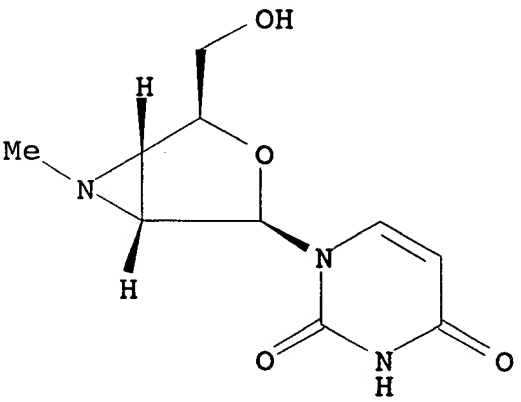


1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA112(11):99113e

L7 ANSWER 6 OF 12 COPYRIGHT 1992 ACS
RN 125418-19-1 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[4-(hydroxymethyl)-6-methyl-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C10 H13 N3 O4
SR CA
LC CA, CASREACT
DES *

Absolute stereochemistry.

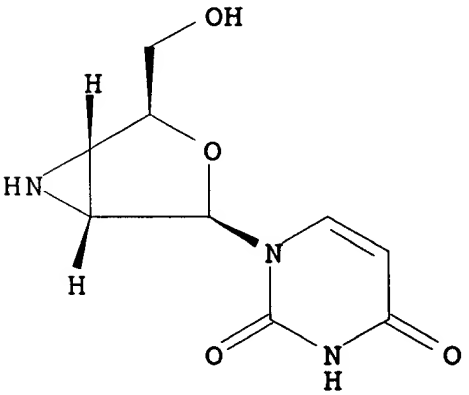


1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA112(11):99113e

L7 ANSWER 7 OF 12 COPYRIGHT 1992 ACS
RN 125418-18-0 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[4-(hydroxymethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C9 H11 N3 O4
SR CA
LC CA, CASREACT, CJACS
DES *

Absolute stereochemistry.



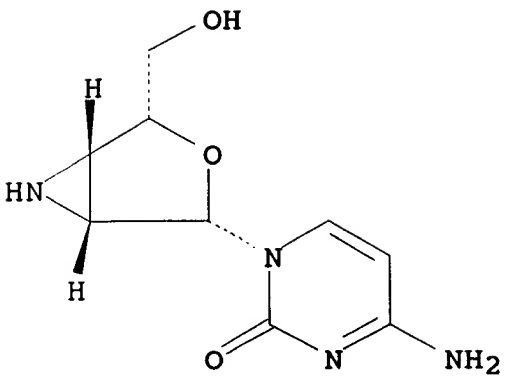
2 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA115(23):256526y

REFERENCE 2: CA112(11):99113e

L7 ANSWER 8 OF 12 COPYRIGHT 1992 ACS
RN 124166-01-4 REGISTRY
CN 2(1H)-Pyrimidinone, 4-amino-1-[4-(hydroxymethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, (1.alpha.,2.beta.,4.beta.,5.alpha.)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2(1H)-pyrimidinone deriv. (9CI)
MF C9 H12 N4 O3
SR CA
LC CA
DES *

Relative stereochemistry.

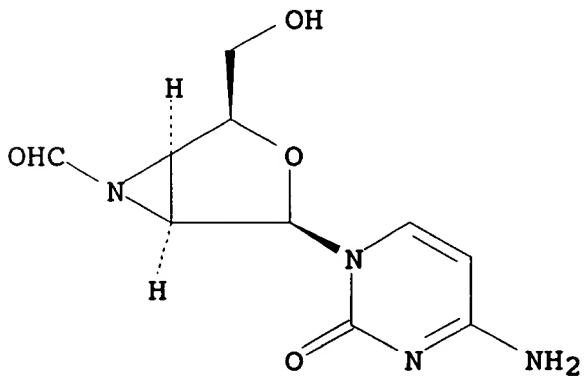


1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: P CA112(1):656z

L7 ANSWER 9 OF 12 COPYRIGHT 1992 ACS
RN 124166-00-3 REGISTRY
CN 3-Oxa-6-azabicyclo[3.1.0]hexane-6-carboxaldehyde,
2-(4-amino-2-oxo-1(2H)-pyrimidinyl)-4-(hydroxymethyl)-,
(1.alpha.,2.beta.,4.beta.,5.alpha.)- (9CI) (CA INDEX NAME)
MF C10 H12 N4 O4
SR CA
LC CA
DES *

Relative stereochemistry.



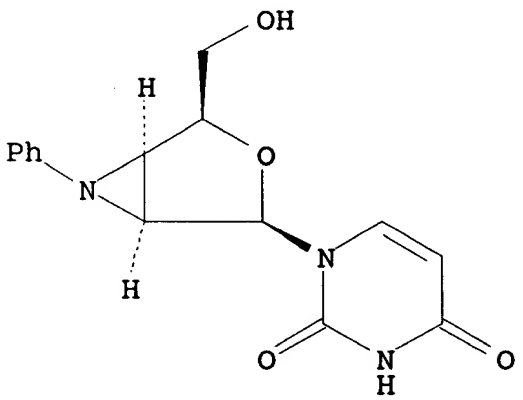
1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: P CA112(1):656z

L7 ANSWER 10 OF 12 COPYRIGHT 1992 ACS
RN 120401-54-9 REGISTRY

CN 2,4(1H,3H)-Pyrimidinedione, 1-[4-(hydroxymethyl)-6-phenyl-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1S-(1.alpha.,2.beta.,4.beta.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C15 H15 N3 O4
SR CA
LC CA, CASREACT
DES *

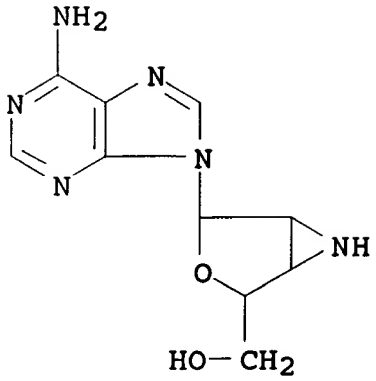
Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA110(23):213254n

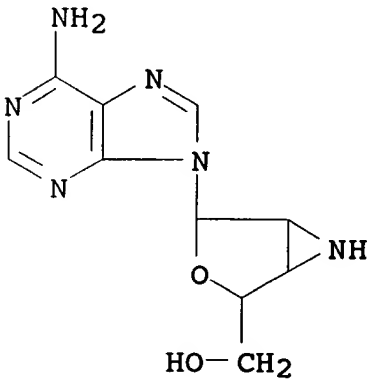
L7 ANSWER 11 OF 12 COPYRIGHT 1992 ACS
RN 68950-31-2 REGISTRY
CN 9H-Purin-6-amine, 9-(2,3-dideoxy-2,3-imino-.beta.-D-lyxofuranosyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 9H-purin-6-amine deriv. (9CI)
MF C10 H12 N6 O2
LC BEILSTEIN, CA
DES 5:B-D-LYXO



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA90(21):168884y

L7 ANSWER 12 OF 12 COPYRIGHT 1992 ACS
RN 68950-30-1 REGISTRY
CN Adenosine, 2',3'-dideoxy-2',3'-imino- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, adenosine deriv. (9CI)
MF C10 H12 N6 O2
LC BEILSTEIN, CA
DES 5:B-D-RIBO



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA90(21):168884y

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FILE COVERS 1967 - 15 Nov 92 (921115/ED) VOL 117 ISS 20.
For OFFLINE Prints or Displays, use the ABS or ALL formats to obtain abstract graphic structures. The AB format DOES NOT display structure diagrams.

=> d his l10-l11

(FILE 'CA' ENTERED AT 11:52:48 ON 16 NOV 92)
L10 6 S L7 OR L7/D
L11 116 S L8 OR L8/D

FILE 'REGISTRY' ENTERED AT 11:53:30 ON 16 NOV 92

FILE 'CA' ENTERED AT 11:54:50 ON 16 NOV 92

=> d bib ab hit l10 1-6

L10 ANSWER 1 OF 6 COPYRIGHT 1992 ACS
AN CA115(23):256526y
TI Comparative structural studies of [3.1.0]-fused 2',3'-modified .beta.-D-nucleosides by x-ray crystallography, NMR spectroscopy, and molecular mechanics calculations
AU Koole, Leo H.; Neidle, Stephen; Crawford, Mark D.; Krayevski, Alexander A.; Gurskaya, Galyna V.; Sandstroem, Anders; Wu, Jin Chang; Tong, Weimin; Chattopadhyaya, Jyoti
CS Biomed. Cent., Univ. Uppsala
LO Uppsala S-75 123, Swed.
SO J. Org. Chem., 56(24), 6884-92
SC 33-9 (Carbohydrates)
SX 22, 75
DT J
CO JOCEAH
IS 0022-3263
PY 1991
LA Eng
OS CJACS
AB A structural study is reported on the [3.1.0]-fused nucleosides 2',3'-dideoxy-2',3'-.alpha.-methyleneuridine (I; X = CH2, B = uracil), 1-(2',3'-dideoxy-2',3'-epimino-.beta.-D-ribofuranosyl)uracil (I; X = NH B = uracil), 1-(2',3'-dideoxy-2',3'-epithio-.beta.-D-ribofuranosyl)uracil (I; X = S; B = uracil) 2',3'-O-anhydroadenosine (I; X = O, B = adenine), 1-(2',3'-dideoxy-2',3'-epithio-.beta.-D-lyxofuranosyl) uracil (II; X1 = S, B = uracil), 1-(2',3'-O-anhydro-.beta.-D-lyxofuranosyl)adenine (II; X1 = O, B = adenine), and 1-(2',3'-O-anhydro-.beta.-D-lyxofuranosyl)thymine (II; X1 = O, B = thymine). Note that compds. I have the three-membered fused ring in the exo orientation (.alpha.-face) and compds. II have the three-membered fused ring in the endo orientation (.beta.-face). The

X-ray crystal structures of I (X = CH2, B = uracil; X = O, B = adenine) show that both systems have an almost planar furanoid ring. Comparisons are made with the crystal structures of the native nucleosides (i.e., uridine and adenosine, resp.). This shows that the cyclopropane unit in I (X = CH2, B = uracil) and the epoxide ring in I (X = O, B = adenine) have virtually the same impact on the furanoid conformation, i.e., flattening of the furanoid ring is in both cases accompanied by shortening of the bonds C1'-C2' and C2'-C3' by ca. 0.03 .ANG., and expansion of the bond angles C1'-C2'-C3' and C2'-C3'-C4' by 5-6.degree.. Comparison of the crystal structures of [3.1.0]-fused nucleosides I (X = CH2, B = uracil; X = O; B = adenine) with three [3.3.0]-fused nucleosides from the literature with a flattened sugar ring showed that C2'-C3' [3.1.0]-fused nucleosides display subtle structural differences, despite the fact that rotation around C2'-C3' is blocked. Secondly, a 1H-NMR conformational study on I and II is reported. Thirdly, we have investigated whether mol. mechanics calcns. (using Allinger's MM2-87 method as provided in the CHEM3D package) can be used to study the conformational properties of systems I and II. In this respect, the structural data on I (X = CH2, B = uracil; X = O, B = adenine) and II (X1 = O; B = thymine) were used to evaluate the performance of the MM2-87 method. It turns out that the mol. mechanics calcns. lead to a fairly accurate picture of the structure of the modified sugar ring, while the calcd. values for the torsion angles .lambda. and .chi. frequently show disparities with respect to the exptl. data. It is put forward that this will be partly due to the fact that the intermol. interactions in the crystal (hydrogen bonding and base stacking) have an impact on the mol. conformation; this effect is not mimicked in our calcns.

IT 2627-64-7 14042-38-7 14486-22-7 40110-98-3 63244-55-3 63244-59-7 **125418-18-0** 129779-53-9
(comparative structural study of, using x-ray crsytallog., NMR, and mol. mechanics calcns.)

L10 ANSWER 2 OF 6 COPYRIGHT 1992 ACS
AN CA113(21):191825g
TI Synthesis of new 2',3'-dideoxy-2',3'-.alpha.-fused-heterocyclic uridines, and some 2',3'-ene-2'-substituted uridines from easily accessible 2',3'-ene-3'-phenylselenonyl uridine
AU Tong, W.; Wu, J. C.; Sandstroem, A.; Chattopadhyaya, J.
CS Biomed. Cent., Univ. Uppsala
LO Uppsala S-751 23, Swed.
SO Tetrahedron, 46(8), 3037-60
SC 33-9 (Carbohydrates)
DT J
CO TETRAB
IS 0040-4020
PY 1990
LA Eng
OS CASREACT 113:191825
AB The synthetic utilities of 2',3'-ene-3'-phenylselenones I (R =

4-monomethxoytrityl, H) as synthetic equiv. of a dication [CH2+-CH2+] have been demonstrated. They act as Michael acceptors, and undergo conjugate addn. reactions at C-2' with hydrazine, 1,2-ethylenediamine, 1,3-diaminopropane, 1,2-ethanedithiol, ethanolamine, and 2-mercaptoethanol to give the intermediary adducts, 2',3'-dideoxy-3'-phenylselenonyl-2'-substituted xylofuranosyl derivs., which then undergo a facile intramol. SN2 type displacement reaction at C-3' by the neighboring 2'-substituent to give a variety of hitherto unreported 2',3'-dideoxy-2',3'-.alpha.-biimino uridine, 2'.3'-dideoxy-heterocyclic derivs. of uridine such as 2',3'-dideoxy-2',3'-.alpha.-biimino uridine, 2',3'-dideoxy-2',3'-.alpha.-(2-iminoimidazolidino)uridine, 2',3'-dideoxy-2',3'-.alpha.-(2-iminoimidazolidino)uridine, 2',3'-dideoxy-2',3'-N-.alpha.-(1,2-ethylene)uridine and 2',3'-dideoxy-2',3'-S-.alpha.-(1,2-ethylene)uridine. Anions of ethanedithiol, 2-aminoethanol, methylthioglycolate, imidazole and triazole, on the other hand, undergo conjugate nucleophilic addn. reactions at C-2' to give the intermediary adducts, 2',3'-dideoxy-3'-phenylselenonyl-2'-substituted xylofuranosyl derivs., which then suffer a cis-elimination of phenylselenic acid to give various 1-(2',3'-dideoxy-2'-substituted .beta.-D-glycero-pent-2'-ene-furanosyl)uracil. The 2',3'-ene-3'-phenylselenones I (R = p-toluoyl, Me3CMe2Si) also react as dienophiles in Diels-Alder or 1,3-cycloaddn. reaction to give unique 2',3'-dideoxy-2',3'-fused-uridine derivs.

IT 129928-65-0P 129928-66-1P 129928-67-2P 129928-68-3P
129928-69-4P 129928-70-7P 129928-71-8P 129928-72-9P
129928-73-0P **129928-74-1P** 129928-75-2P 129928-76-3P
129928-77-4P 129928-78-5P 129928-79-6P 129928-80-9P
129928-81-0P 129928-82-1P 129928-83-2P 129928-84-3P
129928-85-4P 129928-86-5P 129928-87-6P 129928-88-7P
129928-89-8P 129928-90-1P 129928-91-2P 129928-92-3P
129928-93-4P 129928-94-5P 129928-95-6P 129928-96-7P
129928-97-8P 129928-98-9P 129928-99-0P 129929-00-6P
129929-01-7P 129929-02-8P 129948-55-6P
(prepn. and deprotection of)

L10 ANSWER 3 OF 6 COPYRIGHT 1992 ACS
AN CA112(11):99113e
TI Michael addition reactions of .alpha.,.beta.-ene-3'-phenylselenone of uridine. New synthesis of 2',3'-dideoxy-ribo-aziridino-, 2',3'-dideoxy-2',3'-ribo-cyclopropyl-, and 2,2'-O-anhydro-3'-deoxy-3'-aminouridine derivatives
AU Wu, J. C.; Chattopadhyaya, J.
CS Biomed. Cent., Univ. Uppsala
LO Uppsala S-751 23, Swed.
SO Tetrahedron, 45(14), 4507-22
SC 33-9 (Carbohydrates)
DT J
CO TETRAB
IS 0040-4020

PY 1989
LA Eng
OS CASREACT 112:99113
AB A high-yielding synthesis of 1-[5'-O-(4-monomethoxytrityl)-2',3'-dideoxy-3'-phenylselenonyl-.beta.-D-glycero-pent-2'-enofuranosyl]uracil [I; R = monomethoxytrityl; (II)] is described starting from 5'-O-(4-monomethoxytrityl)-2',3'-O-anhydro-.beta.-D-lyxofuranosyl uracil. II can be easily deprotected to I (R = H). The synthetic utilities of I as synthetic equiv. of a dication [CH2+-CH2+] have been demonstrated from the fact that they act as Michael acceptors and undergo conjugate addn. reactions at C-2' with ammonia, methylamine, benzylamine and glycine Me ester, followed by a direct intramol. SN2 type displacement reaction at C-3' in the adduct, to give various 2',3'-dideoxy-ribo-aziridino uridines III (R1 = H, Me, PhCH2, CH2CO2Me) while dimethylamine, pyrrolidine, and morpholine give 2,2'-O-anhydro-3'-deoxy-3'-substituted-aminouridines. Carbon-nucleophiles such as sodium Me malonate and conjugate bases of nitromethane and acetophenone upon reaction with II provides a convenient access to 2',3'-dideoxy-2',3'-cyclopropyl(bicyclo[3.1.0] system) derivs. of uridine IV (R2 = H, R3 = NO2, COPh; R2 = R3 = CO2Me) while a reaction of II with methylacetoacetate gives an unusual 2',3'-fused furano(bicyclo[3.3.0] system) deriv. The methodol. described herein constitute a new general approach to functionalize the 2'- and 3'-carbons of .beta.-D-nucleosides simultaneously. All new 2',3'-disubstituted nucleosides with free 5'-hydroxyl group are potential inhibitors of HIV-specific reverse transcriptase.
IT 69093-67-0P 125417-92-7P 125418-05-5P 125418-08-8P
125418-10-2P 125418-11-3P 125418-12-4P 125418-13-5P
125418-14-6P 125418-15-7P 125418-16-8P 125418-17-9P
125418-18-0P 125418-19-1P 125418-20-4P
125418-21-5P 125437-57-2P
(prepn. of)

L10 ANSWER 4 OF 6 COPYRIGHT 1992 ACS
AN CA112(1):656z
TI Nucleoside analoges as virucides
AU Webb, Thomas R.
CS Genentech, Inc.
LO USA
SO PCT Int. Appl., 28 pp.
PI WO 8809796 A1 15 Dec 1988
DS RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE
AI WO 88-US1812 26 May 1988
PRAI US 87-58304 5 Jun 1987
US 88-190273 4 May 1988
IC ICM C07H019-06
ICS A61K031-70
SC 1-5 (Pharmacology)
DT P

CO PIXXD2
PY 1988
LA Eng
OS MARPAT 112:656
AB Nucleoside analogs I, II and III (Z = O, S, NR; Y = O, NR; R = H, acyl; B = purine or pyrimidine base other than uracil, or an analog of such base which is capable of ambiguous base paring; M = OH, ester) are useful for the treatment or prophylaxis of retroviral infections. The effect of I (Z = O, M = OH, B = cytosinyl) (IV) on the growth of HIV-infected ATH8 cells (2x105 cells per tube; 2000 virus particles cell) was detd. by the method of Broder et al. IV confered substantial protection against HIV infection and was nontoxic at concns. <5 .mu.M. The adenyl analog was comparatively weakly active in conferring protection.
IT 34989-27-0 124165-99-7 **124166-00-3 124166-01-4**
124166-02-5 124166-03-6 124166-05-8 124166-06-9 124223-91-2
(virucide, for lymphotropic viruses)

L10 ANSWER 5 OF 6 COPYRIGHT 1992 ACS
AN CA110(23):213254n
TI Syntheses and alkaline hydrolyses of 2,2'-imino- and 2,2'-(substituted imino)-1-(2'-deoxy-.beta.-D-arabinofuranosyl)uracils
AU Minamoto, Katsumaro; Azuma, Kishiko; Tanaka, Toshihiro; Iwasaki, Hiroshi; Eguchi, Shoji; Kadaya, Shizuo; Moroi, Reimei
CS Fac. Eng., Nagoya Univ.
LO Nagoya, Japan
SO J. Chem. Soc., Perkin Trans. 1, (11), 2955-61
SC 33-9 (Carbohydrates)
DT J
CO JCPRB4
IS 0300-922X
PY 1988
LA Eng
OS CASREACT 110:213254; CJRSC
AB In order to exam. the possibility of "up" amination of the sugar part of pyrimidine nucleosides through pyrimidine N-cyclonucleosides, 2,2'-imino-1-(2'-deoxy-.beta.-D-arabinofuranosyl)uracils I (R = H, Me, CH2CH:CH2, Ph, p-MeOC6H4, NH2, NHMe) were synthesized by amination-cyclization reactions of 2'-O-tosyl-2,5'-anhydrouridine (II; R1 = tosyl). The latter was synthesized from II R1 = H) by 2',3'-O-dibutylstannylation followed by in situ tosylation. N-p-Methoxyphenylisocytidine obtainable from II (R1 = H) was also cyclized to I by treatment with 1,1'-carbonyldiimidazole. I (R = Ph, p-MeOC6H4) were hydrolyzed with 2M NaOH-MeOH (1:1) extremely rapidly to give 2'-deoxy-2'-arylamino uracil-arabinosides III. Treatment of III (R = Ph) with diisopropyl azodiformate and Ph3P in dioxane gave epimino compd. IV. Similar dehydrative cyclization of I (R = H) gave anhydro deriv. V.
IT 55662-33-4P, Imidazo[1,2-a]pyrimidin-7(3H)-one 120401-49-2P
120401-53-8P **120401-54-9P** 120401-55-0P 120401-56-1P

120401-57-2P
(prepn. of)

L10 ANSWER 6 OF 6 COPYRIGHT 1992 ACS
AN CA90(21):168884y
TI Nucleic acid related compounds. 30. Transformations of adenosine to the first 2',3'-aziridine-fused nucleosides, 9-(2,3-epimino-2,3-dideoxy-.beta.-D-ribofuranosyl)adenine and 9-(2,3-epimino-2,3-dideoxy-.beta.-D-lyxofuranosyl)adenine
AU Robins, Morris J.; Hawrelak, S. D.; Kanai, Tadashi; Siefert, Jan Marcus; Mengel, Rudolf
CS Dep. Chem., Univ. Alberta
LO Edmonton, Alberta, Can.
SO J. Org. Chem., 44(8), 1317-22
SC 33-7 (Carbohydrates)
SX 22, 27, 28
DT J
CO JOCEAH
IS 0022-3263
PY 1979
LA Eng
AB Treatment of 9-(2,3-anhydro-.beta.-D-lyxofuranosyl)- and 9-(2,3-anhydro-.beta.-D-ribofuranosyl)adenine with azide gave 9-(3-azido-3-deoxy-.beta.-D-arabinofuranosyl)- and 9-(3-azido-3-deoxy-.beta.-D-xylofuranosyl)adenine in good yields plus minor quantities of the 2'-azido substitution products. Selective protection of the 5'-OH function, mesylation or tosylation of the 2'-OH group, and redn. of the resulting trans-3'-azido-2'-sulfonate ester with intramol. displacement-cyclization provided the resp. fused-ring aziridine products, 9-(2,3-epimino-2,3-dideoxy-.beta.-D-ribofuranosyl)- and 9-(2,3-epimino-2,3-dideoxy-.beta.-D-lyxofuranosyl)adenine. Unusual UV, CD, and 1H NMR spectral properties of these bicyclo[3.1.0] sugar-nucleoside systems are discussed.
IT **68950-30-1P 68950-31-2P**
(prepn. and CD of)

=> d his l12

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L12 96 S L11 NOT (1992/PY OR 1991/PY OR 1990/PY)

=> d bib hit l12 20 25 30 35 40 45 50 55 60 65 70 75

L12 ANSWER 20 OF 96 COPYRIGHT 1992 ACS
AN CA102(23):204219n
TI A detailed investigation of the methylation reaction of a 5-bromopyrimidine nucleoside
AU Marton-Meresz, M.; Kuszmann, J.; Lango, J.; Parkanyi, L.; Kalman, A.

CS Inst. Drug Res.
LO Budapest H-1325, Hung.
SO Nucleosides Nucleotides, 3(3), 221-32
SC 33-9 (Carbohydrates)
SX 75
DT J
CO NUNUD5
IS 0732-8311
PY 1984
LA Eng
IT **85993-14-2P** 96220-92-7P 96220-93-8P 96220-94-9P
(prepn. of)

L12 ANSWER 25 OF 96 COPYRIGHT 1992 ACS
AN CA101(1):7564z
TI Nucleic acid-related compounds. 46. A mild conversion of vicinal diols to alkenes. Efficient transformation of ribonucleosides into 2'-ene and 2',3'-dideoxynucleosides
AU Robins, Morris J.; Hansske, Fritz; Low, Nicholas H.; Park, Ja In
CS Dep. Chem., Univ. Alberta
LO Edmonton, AB T6G 2G2, Can.
SO Tetrahedron Lett., 25(4), 367-70
SC 33-9 (Carbohydrates)
DT J
CO TELEAY
IS 0040-4039
PY 1984
LA Eng
IT **2627-64-7P** 4097-22-7P 90124-47-3P
(prepn. of)

L12 ANSWER 30 OF 96 COPYRIGHT 1992 ACS
AN CA94(17):134801m
TI Sulfonate analogs of adenosine nucleotides as inhibitors of nucleotide-binding enzymes
AU Mundill, Paul H. C.; Fries, Richard W.; Woenckhaus, Christoph; Plapp, Bryce V.
CS Dep. Biochem., Univ. Iowa
LO Iowa City, IA 52242, USA
SO J. Med. Chem., 24(4), 474-7
SC 7-3 (Enzymes)
DT J
CO JMCMAR
IS 0022-2623
PY 1981
LA Eng
IT **40110-98-3**
(reaction of, with sodium bisulfite)

L12 ANSWER 35 OF 96 COPYRIGHT 1992 ACS
AN CA92(23):198671k

KUNZ 652978

TI 9-(3-Deoxy-3-iodo-.beta.-D-xylofuranosyl)adenine. Selective opening of oxirane ring of 2',3'-anhydroadenosine
AU Mengel, Rudolf; Wiedner, Harald
CS Fachber. Chem., Univ. Konstanz
LO Konstanz D-7750, Fed. Rep. Ger.
SO Nucl. Acid Chem., Volume 2, 511-13. Edited by: Townsend, Leroy B.; Tipson, R. Stuart. Wiley: New York, N. Y.
SC 33-7 (Carbohydrates)
DT C
CO 42TBAU
PY 1978
LA Eng
IT **2627-64-7**
(oxirane ring cleavage of, with Na iodide)

L12 ANSWER 40 OF 96 COPYRIGHT 1992 ACS
AN CA90(21):168884y
TI Nucleic acid related compounds. 30. Transformations of adenosine to the first 2',3'-aziridine-fused nucleosides, 9-(2,3-epimino-2,3-dideoxy-.beta.-D-ribofuranosyl)adenine and 9-(2,3-epimino-2,3-dideoxy-.beta.-D-lyxofuranosyl)adenine
AU Robins, Morris J.; Hawrelak, S. D.; Kanai, Tadashi; Siefert, Jan Marcus; Mengel, Rudolf
CS Dep. Chem., Univ. Alberta
LO Edmonton, Alberta, Can.
SO J. Org. Chem., 44(8), 1317-22
SC 33-7 (Carbohydrates)
SX 22, 27, 28
DT J
CO JOCEAH
IS 0022-3263
PY 1979
LA Eng
IT **2627-64-7**
(reaction of, with sodium azide)

L12 ANSWER 45 OF 96 COPYRIGHT 1992 ACS
AN CA90(3):23503p
TI 9-(3-Deoxy-3-iodo-.beta.-D-xylofuranosyl)adenine. Selective opening of the oxirane ring of 2',3'-anhydroadenosine
AU Mengel, Rudolf; Wiedner, Harald
CS Fachber. Chem., Univ. Konstanz
LO Konstanz, Ger.
SO Nucleic Acid Chem., Volume 2, 511-13. Edited by: Townsend, Leroy B.; Tipson, R. Stuart. Wiley: New York, N. Y.
SC 33-7 (Carbohydrates)
SX 28
DT C
CO 39GCA6
PY 1978
LA Eng

IT **2627-64-7**
(reaction of, with sodium iodide in presence of boron trifluoride etherate, iododeoxyadenosine from)

L12 ANSWER 50 OF 96 COPYRIGHT 1992 ACS
AN CA89(7):55475b
TI Apparent suicidal inactivation of DNA polymerase by adenosine 2':3'-riboepoxide 5'-triphosphate
AU Abboud, Muayad M.; Sim, William J.; Loeb, Lawrence A.; Mildvan, Albert S.
CS Inst. Cancer Res., Fox Chase Cancer Cent.
LO Philadelphia, Pa., USA
SO J. Biol. Chem., 253(10), 3415-21
SC 7-3 (Enzymes)
DT J
CO JBCHA3
IS 0021-9258
PY 1978
LA Eng
IT **2627-64-7P**
(prepn. and phosphorylation of)

L12 ANSWER 55 OF 96 COPYRIGHT 1992 ACS
AN CA88(1):7270p
TI Studies on biologically active nucleosides and nucleotides. 3. Synthesis of 9-(3-bromo-3-deoxy-2,5-di-O-acetyl-.beta.-D-xylofuranosyl) adenine
AU Kondo, Kazuhiko; Adachi, Takeshi; Inoue, Ichizo
CS Res. Lab. Appl. Biochem., Tanabe Seiyaku Co. Ltd.
LO Osaka, Japan
SO J. Org. Chem., 42(24), 3967-8
SC 33-7 (Carbohydrates)
DT J
CO JOCEAH
PY 1977
LA Eng
IT **2627-64-7P** 7387-57-7P 62805-48-5P 62805-49-6P
(prepn. of)

L12 ANSWER 60 OF 96 COPYRIGHT 1992 ACS
AN CA86(17):121667g
TI Interconversion of 8,2'-O-cycloadenosine and 2'3'-anhydro-8-oxyadenosine
AU Chattopadhyaya, Jyoti B.; Reese, Colin B.
CS Dep. Chem., King's Coll.
LO London, Engl.
SO J. Chem. Soc., Chem. Commun., (21), 860-2
SC 33-7 (Carbohydrates)
DT J
CO JCCCAT
PY 1976

LA Eng
IT **2627-64-7** 29851-57-8 62086-58-2
(carbon-13 NMR spectrum of)
IT **62086-56-0P**
(prepn. and interconversion of, with cycloadenosine)
IT **62086-57-1P**
(prepn. of)

L12 ANSWER 65 OF 96 COPYRIGHT 1992 ACS
AN CA85(11):78294y
TI Nucleoside transformations. Conversion of guanosine 2',3'-orthoester into deoxy and epoxide nucleosides
AU Mengel, Rudolf; Muhs, Wolfang
CS Fachber. Chem., Univ. Konstanz
LO Constance, Ger.
SO Nucleic Acids Res., Spec. Publ., 1(Symp. Chem. Nucleic Acids Components, 3rd, 1975), S41-S44
SC 33-7 (Carbohydrates)
SX 22, 28
DT J
CO NARPD6
PY 1975
LA Eng
IT 961-07-9P 3608-58-0P 27462-39-1P 60110-78-3P 60110-79-4P
60110-80-7P 60110-81-8P 60110-82-9P 60110-83-0P 60110-84-1P
60110-85-2P 60110-86-3P **60110-87-4P** 60110-88-5P
60110-89-6P 60110-90-9P 60110-91-0P 60110-92-1P 60110-93-2P
(prepn. of)

L12 ANSWER 70 OF 96 COPYRIGHT 1992 ACS
AN CA84(13):90518m
TI Arabinosylcytosines
AU Kanai, Tadashi; Adachi, Mitsue; Ichino, Motonobu; Nakamura, Tokuro
CS Kohjin Co., Ltd.
LO Japan
SO Japan. Kokai, 4 pp.
PI JP 49014478 7 Feb 1974 Showa
AI JP 72-57713 12 Jun 1972
NCL 16E461
SC 33-7 (Carbohydrates)
DT P
CO JKXXAF
PY 1974
LA Japan
IT 147-94-4P 17676-67-4P **58431-60-0P**
(prepn. of)
IT **34989-27-0**
(ring cleavage of)

L12 ANSWER 75 OF 96 COPYRIGHT 1992 ACS
AN CA80(21):121290e

TI Dinucleoside phosphates
AU Kanai, Tadashi; Adachi, Mitsue; Ichino, Motonobu; Nakamura, Tokuro
CS Kohjin Co., Ltd.
SO Japan. Kokai, 5 pp.
PI JP 49018879 19 Feb 1974 Showa
AI JP 72-20138 29 Feb 1972
NCL 16E461
SC 33-7 (Carbohydrates)
SX 28
DT P
CO JKXXAF
PY 1974
LA Japan
IT **34989-27-0**
(reaction of, with 5'-adenylic acid tributylamine salt)

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L12 ANSWER 10 OF 96 COPYRIGHT 1992 ACS
AN CA110(13):115237q
TI Synthesis of 3'-modified nucleoside 5'-triphosphates, new termination substrates of DNA polymerases
AU Dyatkina, N. B.; Atrazheva, E. D.; Aleksandrova, L. A.; Kraevskii, A. A.; Von Janta-Lipinski, M.
CS Inst. Mol. Biol.
LO Moscow, USSR
SO Bioorg. Khim., 14(6), 815-19
SC 33-9 (Carbohydrates)
DT J
CO BIKHD7
PY 1988
LA Russ
IT 362-42-5P **2627-64-7P** 15981-92-7P 25526-94-7P
40110-98-3P 108895-44-9P 119262-46-3P 119262-48-5P
(prepn. and phosphorylation of)

L12 ANSWER 12 OF 96 COPYRIGHT 1992 ACS
AN CA109(15):129576r
TI Synthesis and anti-HIV activity of different sugar-modified pyrimidine and purine nucleosides
AU Herdewijn, Piet; Balzarini, Jan; Baba, Masanori; Pauwels, Rudi; Van Aerschot, Arthur; Janssen, Gerard; De Clercq, Erik
CS Rega Inst. Med. Res., Kathol. Univ. Leuven
LO Louvain B-3000, Belg.
SO J. Med. Chem., 31(10), 2040-8
SC 33-9 (Carbohydrates)
SX 1, 10
DT J
CO JMCMAR
IS 0022-2623
PY 1988

LA Eng
OS CASREACT 109:129576; CJACS
IT 73-03-0 **2627-64-7** 6998-75-0 25526-93-6 30516-87-1
40110-98-3 41107-56-6 84472-85-5 84472-89-9
87190-79-2 107601-08-1 108895-46-1 114753-53-6 116002-29-0
(antiviral activity of)

L12 ANSWER 13 OF 96 COPYRIGHT 1992 ACS
AN CA109(3):23303j
TI 1-(2,3-Anhydro-.beta.-D-lyxofuranosyl)cytosine derivatives as potential inhibitors of the human immunodeficiency virus
AU Webb, Thomas R.; Mitsuya, Hiroaki; Broder, Samuel
CS Genentech, Inc.
LO South San Francisco, CA 94080, USA
SO J. Med. Chem., 31(7), 1475-9
SC 33-9 (Carbohydrates)
SX 1
DT J
CO JMCMAR
IS 0022-2623
PY 1988
LA Eng
OS CASREACT 109:23303; CJACS
IT 6206-17-3P **14042-38-7P 14486-22-7P**
26301-92-8P 34989-27-0P 58526-07-1P
60786-48-3P 99614-77-4P 110524-36-2P 114672-74-1P
(prepn. and human immunodeficiency virus inhibiting activity of)
IT 5983-06-2P **114551-18-7P 114551-19-8P**
114563-61-0P
(prepn. of)

L12 ANSWER 15 OF 96 COPYRIGHT 1992 ACS
AN CA105(17):153471r
TI Some observations on the carbon-13 NMR assignments of the pentofuranose moiety of .beta.-D-nucleosides
AU Bazin, H.; Zhou, X. X.; Welch, C. J.; Pathak, T.; Nyilas, A.; Chattopadhyaya, J.
CS Biomed. Cent., Uppsala Univ.
LO Uppsala S-751 23, Swed.
SO Chem. Scr., 26(1), 17-19
SC 33-9 (Carbohydrates)
SX 22
DT J
CO CSRPB9
IS 0004-2056
PY 1986
LA Eng
IT 58-61-7, properties 58-96-8 73-03-0 362-43-6 524-69-6
951-77-9 958-09-8 2140-76-3 2140-79-6 **2627-64-7**
5536-17-4 6554-10-5 6998-75-0 10300-22-8 13089-44-6
13276-53-4 37713-26-1 37731-73-0 **40110-98-3**

42867-78-7 53213-01-7 62805-48-5 77244-78-1 87412-02-0
87515-12-6 87515-13-7 87515-14-8 87522-73-4 101857-01-6
102997-84-2 102997-89-7 104477-68-1 104525-44-2 104525-45-3
104525-46-4 104525-47-5 104525-48-6 104525-49-7 104525-50-0
104525-51-1
(carbon-13 NMR of)

L12 ANSWER 16 OF 96 COPYRIGHT 1992 ACS
AN CA105(5):43248r
TI A convenient preparation of 9-(3'-deoxy-.beta.-D-threo-pentofuranosyl)adenine and 9-[3'-deoxy-3'-(S)-deuterio-.beta.-D-2'-(S)-pentofuranosyl]adenine
AU Nyilas, Agnes; Chattopadhyaya, Jyoti
CS Dep. Bioorg. Chem., Uppsala Univ.
LO Uppsala S-751 23, Swed.
SO Synthesis, (3), 196-8
SC 33-9 (Carbohydrates)
DT J
CO SYNTBF
IS 0039-7881
PY 1986
LA Eng
OS CASREACT 105:43248
IT **40110-98-3**
(monomethoxytritylation of)

L12 ANSWER 19 OF 96 COPYRIGHT 1992 ACS
AN CA104(5):30826g
TI Synthesis of 3'-azido- and 3'-amino-3'-deoxyarabinonucleoside 5'-triphosphates and their substrate properties in the system of polynucleotide synthesizing enzymes
AU Papchikhin, A. V.; Purygin, P. P.; Azhaev, A. V.; Kraevskii, A. A.; Kutateladze, T. V.; Chidzhavadze, Z. G.; Bibilashvilli, R. Sh.
CS Kuibyshev State Univ.
LO Kuibyshev, USSR
SO Bioorg. Khim., 11(10), 1367-79
SC 7-3 (Enzymes)
DT J
CO BIKHD7
PY 1985
LA Russ
IT **14486-22-7P 34989-27-0P 40110-98-3P**
99614-78-5P
(prepn. and reaction with lithium azide and ammonium chloride)

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DICTIONARY FILE UPDATES: 15 NOV 92   HIGHEST RN 144489-44-1

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             1 2627-64-7/RN
             1 14486-22-7/RN
             1 34989-27-0/RN
             1 114551-18-7/RN
             1 114551-19-8/RN
             1 114563-61-0/RN
             1 14042-38-7/RN
             1 26301-92-8/RN
             1 99614-78-5/RN
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               7-0/RN OR 114551-18-7/RN OR 114551-19-8/RN OR 114563-61-0/
               RN OR 14042-38-7/RN OR 26301-92-8/RN OR 99614-78-5/RN)

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L13  ANSWER 1 OF 10  COPYRIGHT 1992 ACS
RN   114563-61-0  REGISTRY
CN   2(1H)-Pyrimidinone, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-4-
     (methylamino)- (9CI)  (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN   3,6-Dioxabicyclo[3.1.0]hexane, 2(1H)-pyrimidinone deriv. (9CI)
MF   C10 H13 N3 O4
SR   CA
LC   CA, CASREACT, CJACS
DES  5:B-D-LYXO
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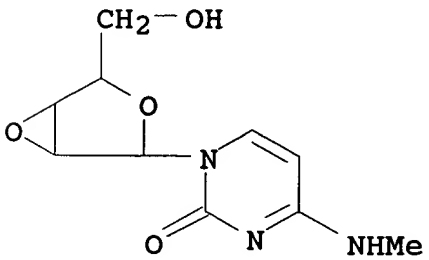


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1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE   1:     CA109(3):23303j
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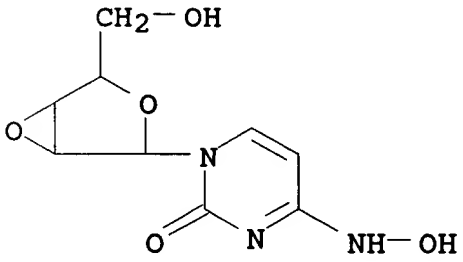
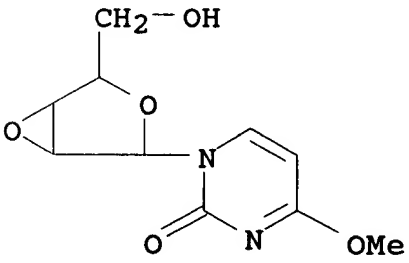
L13 ANSWER 2 OF 10 COPYRIGHT 1992 ACS
RN **114551-19-8** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-, 4-oxime (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C9 H11 N3 O5
SR CA
LC CA, CASREACT, CJACS
DES 5:B-D-LYXO



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA109(3):23303j

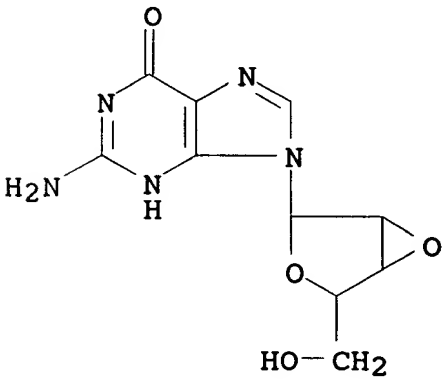
L13 ANSWER 3 OF 10 COPYRIGHT 1992 ACS
RN **114551-18-7** REGISTRY
CN 2(1H)-Pyrimidinone, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-4-methoxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 2(1H)-pyrimidinone deriv. (9CI)
MF C10 H12 N2 O5
SR CA
LC CA, CASREACT, CJACS
DES 5:B-D-LYXO



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA109(3):23303j

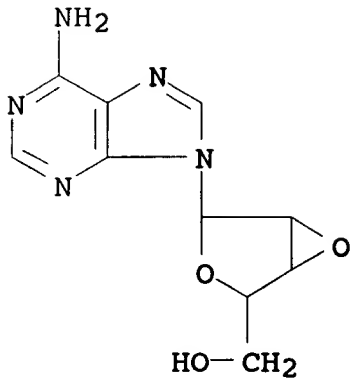
L13 ANSWER 4 OF 10 COPYRIGHT 1992 ACS
RN **99614-78-5** REGISTRY
CN 6H-Purin-6-one, 2-amino-9-(2,3-anhydro-.beta.-D-lyxofuranosyl)-1,9-dihydro- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 6H-purin-6-one deriv. (9CI)
MF C10 H11 N5 O4
CI COM
SR CA
LC BEILSTEIN, CA
DES 5:B-D-LYXO



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA104(5):30826g

L13 ANSWER 5 OF 10 COPYRIGHT 1992 ACS
RN **40110-98-3** REGISTRY
CN 9H-Purin-6-amine, 9-(2,3-anhydro-.beta.-D-lyxofuranosyl)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 9H-purin-6-amine deriv. (9CI)
CN Adenine, 9-(2,3-anhydro-.beta.-D-lyxofuranosyl)- (6CI, 7CI)
DR 127246-66-6
MF C10 H11 N5 O3
LC BEILSTEIN, CA, CAOLD, CASREACT, CJACS
DES 5:B-D-LYXO



REFERENCES IN FILE CAOLD (PRIOR TO 1967)
27 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA116(17):165760z

REFERENCE 2: CA115(23):256526y

REFERENCE 3: CA114(23):229273m

REFERENCE 4: CA112(25):235745s

REFERENCE 5: P CA111(25):225295k

REFERENCE 6: CA111(17):154277t

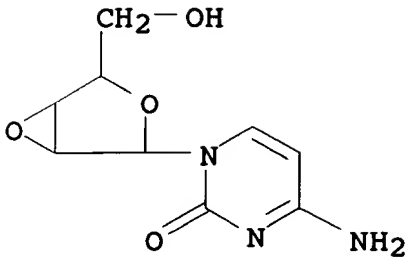
REFERENCE 7: CA110(25):232006z

REFERENCE 8: CA110(17):154768h

REFERENCE 9: CA110(13):115237q

REFERENCE 10: CA109(15):129576r

L13 ANSWER 6 OF 10 COPYRIGHT 1992 ACS
RN **34989-27-0** REGISTRY
CN 2(1H)-Pyrimidinone, 4-amino-1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-
(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 2(1H)-pyrimidinone deriv. (9CI)
MF C9 H11 N3 O4
CI COM
LC BEILSTEIN, CA, CASREACT, CJACS, MEDLINE
DES 5:B-D-LYXO



12 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA117(11):111952r

REFERENCE 2: P CA116(17):174678f

REFERENCE 3: P CA112(1):656z

REFERENCE 4: P CA111(25):225295k/AMD

REFERENCE 5: CA109(3):23303j

REFERENCE 6: CA104(5):30826g

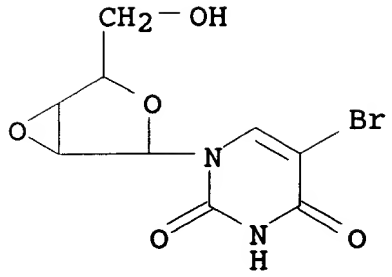
REFERENCE 7: CA86(5):25851s

REFERENCE 8: CA85(3):21747u

REFERENCE 9: P CA84(13):90518m

REFERENCE 10: P CA80(21):121290e

L13 ANSWER 7 OF 10 COPYRIGHT 1992 ACS
RN **26301-92-8** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-5-bromo- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
CN Uracil, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-5-bromo- (8CI)
MF C9 H9 Br N2 O5
LC BEILSTEIN, CA, CASREACT, CJACS
DES 5:B-D-LYXO

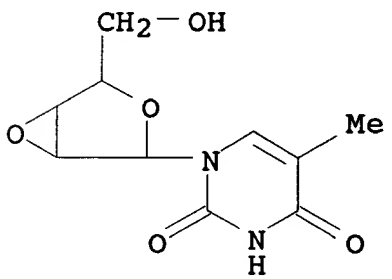


2 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA109(3):23303j

REFERENCE 2: P CA72(1):3725n

L13 ANSWER 8 OF 10 COPYRIGHT 1992 ACS
RN **14486-22-7** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-5-methyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
CN Thymine, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)- (7CI, 8CI)
MF C10 H12 N2 O5
LC BEILSTEIN, CA, CAOLD, CASREACT, CJACS, MEDLINE
DES 5:B-D-LYXO



REFERENCES IN FILE CAOLD (PRIOR TO 1967)
9 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA117(7):70227n

REFERENCE 2: CA115(23):256526y

REFERENCE 3: CA114(1):2569p

REFERENCE 4: CA113(17):147818h

REFERENCE 5: P CA111(25):225295k/AMD

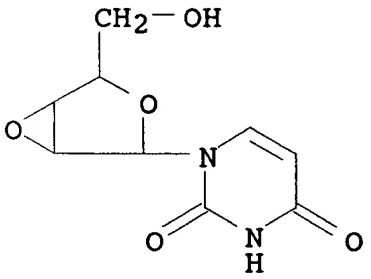
REFERENCE 6: CA110(25):232006z

REFERENCE 7: CA109(3):23303j

REFERENCE 8: CA104(5):30826g

REFERENCE 9: P CA66(17):76279f

L13 ANSWER 9 OF 10 COPYRIGHT 1992 ACS
RN **14042-38-7** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)-(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
CN Uracil, 1-(2,3-anhydro-.beta.-D-lyxofuranosyl)- (7CI, 8CI)
MF C9 H10 N2 O5
LC BEILSTEIN, CA, CAOLD, CASREACT, CJACS, IFICDB, IFIPAT, IFIUDB
DES 5:B-D-LYXO



REFERENCES IN FILE CAOLD (PRIOR TO 1967)
13 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA117(17):171929y

REFERENCE 2: CA117(11):111952r

REFERENCE 3: CA115(23):256526y

REFERENCE 4: P CA111(25):225295k/AMD

REFERENCE 5: CA110(25):232006z

REFERENCE 6: CA109(3):23303j

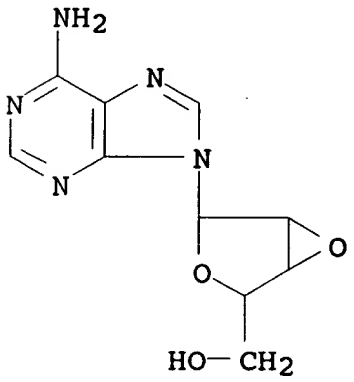
REFERENCE 7: CA102(19):167078t

REFERENCE 8: CA101(23):211630x

REFERENCE 9: CA89(22):186140m

REFERENCE 10: CA86(5):25851s

L13 ANSWER 10 OF 10 COPYRIGHT 1992 ACS
RN **2627-64-7** REGISTRY
CN Adenosine, 2',3'-anhydro- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3,6-Dioxabicyclo[3.1.0]hexane, adenosine deriv. (9CI)
OTHER NAMES:
CN 2',3'-Anhydroadenosine
MF C10 H11 N5 O3
LC BEILSTEIN, CA, CAOLD, CASREACT, CJACS, IFICDB, IFIPAT, IFIUDB, SPECINFO
DES 5:B-D-RIBO



REFERENCES IN FILE CAOLD (PRIOR TO 1967)
46 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA117(19):192225f

REFERENCE 2: CA117(9):90663e

REFERENCE 3: CA116(23):236067s

REFERENCE 4: CA116(15):152282v

REFERENCE 5: CA115(23):256526y

REFERENCE 6: P CA115(17):183808e

REFERENCE 7: CA115(17):177994w

REFERENCE 8: CA114(15):143890y

REFERENCE 9: CA112(25):235745s

REFERENCE 10: CA112(21):194311b

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=> d his

     (FILE 'HOME' ENTERED AT 10:01:01 ON 16 NOV 92)
                SET PAGELENGTH SCROLL

     FILE 'REGISTRY' ENTERED AT 10:01:20 ON 16 NOV 92
                E AZIRIDINYL/CN
L1             1 S E3-4

     FILE 'CA' ENTERED AT 10:02:42 ON 16 NOV 92
L2             6 S L1 OR L1/D
L3             0 S AZIRIDINYLCYTOSINE OR AZIRIDIN? CYTOSINE
L4             7 S (AZIRIDIN?(L)CYTOSINE)/AB,BI

     FILE 'REGISTRY' ENTERED AT 10:06:33 ON 16 NOV 92
                ACT KUNZ2/A
                ---------
L5                STR
L6           201 SEA FILE=REGISTRY SSS FUL L5
                ---------
L7                STR
L8             6 S L7
L9                STR
L10            4 S L9
L11           77 S L9 FUL
                  SAVE L11 KUNZ3/A TEMP
L12               STR L9
L13           65 SEARCH L12  SSS  SUB=L11 FUL
L14           12 S L11 NOT L13

     FILE 'CA' ENTERED AT 10:16:50 ON 16 NOV 92
L15          116 S L13 OR L13/D

     FILE 'REGISTRY' ENTERED AT 10:17:38 ON 16 NOV 92
                SAVE L14 KUNZ4/A TEMP

     FILE 'CA' ENTERED AT 10:18:26 ON 16 NOV 92
L16         1552 S AZIRIDINYL?/AB,BI
L17        18454 S NUCLEOSID?
L18            3 S L16 AND L17
L19              QUE 151-56-4

     FILE 'REGISTRY' ENTERED AT 10:20:34 ON 16 NOV 92
L20            1 S L19
                  E CYTOSINE/CN
L21            1 S E3

     FILE 'CA' ENTERED AT 10:21:35 ON 16 NOV 92
L22         2808 S L20 OR L20/D
L23         3209 S L21 OR L21/D
L24            2 S L22 AND L23
```

```
L25             6 S L14 OR L14/D
L26             0 S AZIRIDINOCYTOSINE?/AB,BI
L27             0 S (AZIRIDIN#(2W) CYTOSINE)/AB,BI
L28          6516 S (AZIRIDIN?)/AB,BI
L29             2 S L25 AND L28

=> fil reg
FILE 'REGISTRY' ENTERED AT 10:30:33 ON 16 NOV 92
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 1992 American Chemical Society (ACS)

STRUCTURE FILE UPDATES:  13 NOV 92   HIGHEST RN 144489-44-1
DICTIONARY FILE UPDATES: 15 NOV 92   HIGHEST RN 144489-44-1

=> d que stat l11
L9                STR
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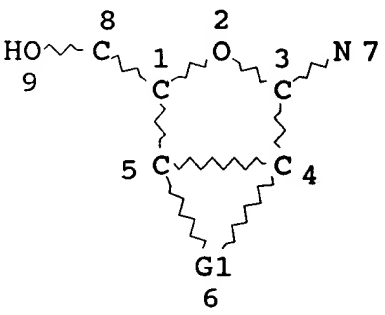


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VAR G1=N/O
NODE ATTRIBUTES:
NSPEC   IS R      AT   7

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   9
L11            77 SEA FILE=REGISTRY SSS FUL L9

100.0% PROCESSED   6668 ITERATIONS                          77 ANSWERS
SEARCH TIME: 00.00.28


=> d his l11-l14

     (FILE 'REGISTRY' ENTERED AT 10:06:33 ON 16 NOV 92)
L11            77 S L9 FUL
                  SAVE L11 KUNZ3/A TEMP
L12               STR L9
L13            65 SEARCH L12  SSS  SUB=L11 FUL
L14            12 S L11 NOT L13

=> fil ca
```

KUNZ 652978

FILE 'CA' ENTERED AT 10:31:04 ON 16 NOV 92
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

FILE COVERS 1967 - 15 Nov 92 (921115/ED) VOL 117 ISS 20.
For OFFLINE Prints or Displays, use the ABS or ALL formats to obtain abstract graphic structures. The AB format DOES NOT display structure diagrams.

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=> d que l18
L16         1552 SEA FILE=CA AZIRIDINYL?/AB,BI
L17        18454 SEA FILE=CA NUCLEOSID?
L18            3 SEA FILE=CA L16 AND L17

=> d que l24
L20            1 SEA FILE=REGISTRY 151-56-4
L21            1 SEA FILE=REGISTRY CYTOSINE/CN
L22         2808 SEA FILE=CA L20 OR L20/D
L23         3209 SEA FILE=CA L21 OR L21/D
L24            2 SEA FILE=CA L22 AND L23

=> d que l29
L9               STR
L11             77 SEA FILE=REGISTRY SSS FUL L9
L12              STR
L13             65 SEA FILE=REGISTRY SUB=L11 SSS FUL L12
L14             12 SEA FILE=REGISTRY L11 NOT L13
L25              6 SEA FILE=CA L14 OR L14/D
L28         6516 SEA FILE=CA (AZIRIDIN?)/AB,BI
L29            2 SEA FILE=CA L25 AND L28

=> d bib ab l18 1-3

L18  ANSWER 1 OF 3  COPYRIGHT 1992 ACS
AN   CA113(21):191830e
TI   Synthesis of new nucleoside phosphoraziridines as
     potential site-directed antineoplastic agents
AU   Breiner, Robert G.; Rose, William C.; Dunn, Joseph A.; MacDiarmid,
     Joan E.; Bardos, Thomas J.
CS   Dep. Med. Chem., State Univ. New York
LO   Amherst, NY 14260, USA
SO   J. Med. Chem., 33(9), 2596-602
SC   33-9 (Carbohydrates)
SX   1
DT   J
CO   JMCMAR
IS   0022-2623
PY   1990
LA   Eng
OS   CJACS
```

AB With the aim of increasing the selectivity of the 2,2-dimethylphosphoraziridine type antitumor agents toward the intracellular site of DNA synthesis, a series of new compds. was synthesized. The carbamates I (R = OH, R1 = COR2, R = O2CR2, R1 = H) were highly unstable, and therefore the O-acetyl derivs. were prepd. by treating 5'- and 3'-acetylthymidine, resp., with Cl2P(O)NCO followed by the addn. of 2,2-dimethylaziridine and Et3N. I (R = R2, R1 = H) was prepd. by treating the thymidinylamine with bis(2,2-dimethyl-1-**aziridinyl**)phosphinyl chloride. The cytidines II (R3 = H, Ac; R4 = H, OH, R5 = H; R4 = H, R5 = OH) were prepd. by reacting the hydrochlorides of the O-peracetylated cytosine nucleosides with Et3N and POCl3 followed by 2,2-dimethylaziridine and Et3N, to give II (R3 = Ac) which were deacetylated by aminolysis. However, II (R3 = Ac) were more stable than II (R3 = H) and, probably for the same reason, also more active against P388 leukemia in mice. Particularly, I (R3 = Ac, R4 = H, OAc, R5 = H) showed sufficient activity in vivo to warrant further evaluation. The relationships between the antitumor activities, the chem. alkylating activities, and the cholinesterase inhibitory activities of these agents are discussed.

L18 ANSWER 2 OF 3 COPYRIGHT 1992 ACS
AN CA95(25):220260m
TI Synthesis of certain fluorescent tricyclic **nucleosides** derived from pyrazolo[3,4-d]pyrimidine **nucleosides**
AU Bhat, Ganapati A.; Townsend, Leroy B.
CS Dep. Med. Chem., Univ. Michigan
LO Ann Arbor, MI 48109, USA
SO J. Chem. Soc., Perkin Trans. 1, (9), 2387-93
SC 33-7 (Carbohydrates)
SX 22
DT J
CO JCPRB4
IS 0300-922X
PY 1981
LA Eng
AB The prepn. is described of tricyclic nucleosides with a dihydroimidazole, imidazole, triazole, or tetrazole ring fused to the pyrazolopyrimidine ring system in an angular position. E.g., cyclocondensation reaction of the nucleoside I with ClCH2CHO (H2O, NaOAc, pH 4.5, 80.degree., 3 h) gave the imidazo deriv. II (64%). The UV and fluorescence spectra of the tricyclic nucleosides are reported.

L18 ANSWER 3 OF 3 COPYRIGHT 1992 ACS
AN CA81(15):91872x
TI Synthesis of purine **nucleoside** 6-sulfonates
AU Rackwitz, Hans R.; Scheit, Karl H.
CS Abt. Mol. Biol., Max-Planck-Inst. Biophys. Chem.
LO Goettingen, Ger.
SO Chem. Ber., 107(7), 2284-94

KUNZ 652978

SC 33-7 (Carbohydrates)
SX 28
DT J
CO CHBEAM
PY 1974
LA Ger
AB The purinethiones I (R = H, PO3H2, or triphosphate; R1 = H or NH2; R2 = H or OH) reacted with SO32- in the presence of O to give 100% II (R3 = SO3-) (III). III (R = H, R1 = H or NH2, R2 = OH) reacted with NH4OH to give adenosine and the corresponding diamino deriv., resp. III (R = H or PO3H2, R1 = H, R2 = OH) reacted with aziridine to give II (R3 = 1-**aziridinyl**). III (R1 = NH2) fluoresced with high quantum yields on excitation in the near uv. The formation of III (R = H) on irradn. of I at 235 nm in the presence of O was proved by fluorescence and absorption spectroscopy and by comparison with authentic material.

=> d bib ab it l24 1-2

L24 ANSWER 1 OF 2 COPYRIGHT 1992 ACS
AN CA115(11):114152z
TI New sulfonamides and their metal salts and complexes useful as drugs
AU Takayanagi, Takeo
LO USA
SO Ger. Offen., 11 pp.
PI DE 3921580 A1 3 Jan 1991
AI DE 89-3921580 30 Jun 1989
IC ICM C07C311-15
ICS C07C335-08; C07D203-22; C07D203-12; C07D239-47; C07D487-04; C07D239-54; C07D239-40; C07D473-38; C07D307-22; A61K031-63
SC 25-13 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
SX 1, 63
DT P
CO GWXXBX
PY 1991
LA Ger
OS MARPAT 115:114152
AB Sulfonamides 4-XC6H4SO2NHR1 [X = RR'N where R, R' = COCH(R2)2, COC(R2)3, SO2MeCO2Et, CH2CH2R2, CH2CH2OH, etc.; R2 = Cl, NMeCHO, aziridino, NMeOH, NHCO2CH2CH2OH, etc.; R1 = NH2, NMeCHO, aziridino, 2-hydroxypyrimidin-4-ylamino, HNCH2CH2Cl, NHCO2Et, 6-mercaptopurinyl, prednisolyl, 5-fluorouracilyl, OH, OMe, OPh, oxonium group (i.e. +O(CH2CH2Cl)2, +OPh2, etc.), SH, iodo, etc.] and their salts (esp. metal salts) and inclusion complexes with a variety of therapeutic agents are claimed. For example, reaction of 4-(EtO2CNH)C6H4SO2Cl with 1-allyl-2-thiourea in pyridine gave 4-(EtO2CNH)C6H4SO2NHC(S)NHCH2CH:CH2 (I). A soln. of I in 2-methoxyethanol was treated with prednisolone (II) and then with a Mg salt soln. to give a 1:1 inclusion complex of 2 I.Mg with II. Eight addnl. prepn. of Mg salt inclusion complexes are described.
IT Sulfonamides

(benzenesulfomides inclusion complexes with therapeutic agents)
IT Androgens
Antibiotics
Estrogens
Neoplasm inhibitors
Vitamins
(inclusion complexes of known agents with sulfonamides)
IT Glycosides
(inclusion complexes with sulfonamides)
IT 13945-59-0P 22819-27-8P 52316-24-2P 134380-82-8P
134380-83-9P 134380-84-0P 134380-85-1P 134380-86-2P
134380-87-3P 134380-88-4P 134380-89-5P 134380-90-8P
(prepn. and reaction of, in prepn. of therapeutic inclusion complex)
IT 134366-70-4P 134366-72-6P 134366-74-8P 134380-83-9DP, complex with magnesium and mercaptopurine 134380-86-2DP, complex with magnesium and prednisolone 134380-87-3DP, complex with magnesium and prednisolone 134380-90-8DP, complex with magnesium
134392-19-1P
(prepn. of, as drug)
IT 50-18-0DP, Cyclophosphamide, inclusion complexes with sulfonamides
50-24-8DP, Prednisolone, inclusion complexes with sulfonamides
50-44-2DP, 6-Mercaptopurine, inclusion complexes with sulfonamides
51-21-8DP, 5-Fluorouracil, inclusion complexes with sulfonamides
52-24-4DP, Thiotepa, inclusion complexes with sulfonamides
55-18-5DP, Diethylnitrosamine, inclusion complexes with sulfonamides
55-86-7DP, Nitrogen mustard, inclusion complexes with sulfonamides
55-98-1DP, inclusion complexes with sulfonamides 56-75-7DP, Chloramphenicol, inclusion complexes with sulfonamides 57-92-1DP, Streptomycin, inclusion complexes with sulfonamides 61-33-6DP, inclusion complexes with sulfonamides 61-73-4DP, Methylene blue, inclusion complexes with sulfonamides 62-75-9DP, Dimethylnitrosamine, inclusion complexes with sulfonamides 109-57-9DP, inclusion complexes with sulfonamides 119-36-8DP, Salicylic acid methyl ester, inclusion complexes with sulfonamides 123-39-7DP, N-Methylformamide, inclusion complexes with sulfonamides 548-62-9DP, Pyoktanin, inclusion complexes with sulfonamides 865-21-4DP, Vinblastine, inclusion complexes with sulfonamides 936-02-7DP, inclusion complexes with sulfonamides 2438-32-6DP, inclusion complexes with sulfonamides 3711-49-7DP, inclusion complexes with sulfonamides 7439-95-4DP, Magnesium, inclusion complexes contg. 7440-06-4DP, Platinum, inclusion complexes contg. 7440-50-8DP, Copper, inclusion complexes contg. 7733-02-0DP, Zinc sulfate, inclusion complexes contg. 8004-87-3DP, Methyl violet, inclusion complexes with sulfonamides 9001-12-1DP, Collagenase, inclusion complexes with sulfonamides 9002-60-2DP, Corticotropin, inclusion complexes with sulfonamides 9015-68-3DP, L-Asparaginase, inclusion complexes with sulfonamides 9030-73-3DP, Depolymerase, inclusion complexes with sulfonamides 9066-59-5DP, Lysozyme chloride, inclusion complexes with sulfonamides 13766-44-4DP, Mercury sulfate, inclusion complexes contg. 21293-29-8DP, Abscisic

acid, inclusion complexes with sulfonamides 36368-43-1DP, N-Nitrosoaziridine, inclusion complexes with sulfonamides 67809-14-7DP, inclusion complexes with sulfonamides 68518-47-8DP, Euflavine, inclusion complexes with sulfonamides 97059-07-9DP, inclusion complexes with sulfonamides 134380-91-9DP, inclusion complexes with sulfonamides 134380-92-0DP, inclusion complexes with sulfonamides 134380-93-1DP, inclusion complexes with sulfonamides 134380-94-2DP, inclusion complexes with sulfonamides 134380-95-3DP, inclusion complexes with sulfonamides 134380-96-4DP, inclusion complexes with sulfonamides 134380-97-5DP, inclusion complexes with sulfonamides
(prepn. of, as therapeutics)

IT 50-24-8, Prednisolone 51-79-6, Ethyl urethane **71-30-7**, Cytosine 79-36-7, Dichloroacetyl chloride 109-57-9 111-44-4, Bis(2-chloroethyl) ether 121-60-8, 4-Acetylaminobenzenesulfonyl chloride **151-56-4**, Aziridine, reactions 689-98-5, 2-Chloroethylamine 936-02-7 3518-65-8, Chloromethylsulfonyl chloride 4885-02-3, Dichloromethyl methyl ether 7487-88-9, Magnesium sulfate, reactions 7681-11-0, Potassium iodide, reactions 7758-98-7, Sulfuric acid copper(2+) salt (1:1), reactions 9000-92-4, Diastase 21208-62-8 67809-14-7 135288-99-2
(reaction of, in prepn. of therapeutic inclusion complexes)

L24 ANSWER 2 OF 2 COPYRIGHT 1992 ACS
AN CA66(12):52027w
TI Separation of amines by ligand exchange. IV. Ligand exchange with chelating resins and cellulosic exchangers
AU Shimomura, Kazuko; Dickson, Luther; Walton, Harold F.
CS Univ. of Colorado
LO Boulder, Colo., USA
SO Anal. Chim. Acta, 37(1), 102-11
SC 80 (Organic Analytical Chemistry)
DT J
CO ACACAM
PY 1967
LA Eng
AB Unavailable
IT Amines, analysis
(sepn. of aliphatic, by ligand exchange)
IT Chelex 100
(in amine sepn.)
IT Purine, derivs.
Pyrimidine, derivs.
(sepn. of, by ligand exchange)
IT 65-71-4 **71-30-7** 73-24-5, analysis 73-40-5 74-89-5 75-04-7 109-89-7, analysis 121-44-8, analysis **151-56-4**
(chromatog. of)
IT 7440-50-8, analysis
(detn. of, in effluents from copper-loaded chelating resin)
IT 7440-02-0, analysis

(detn. of, in effluents from nickel-loaded chelating resin)
IT 57-14-7 302-01-2, analysis
(sepn. of, by ligand exchange)
IT 75-64-9
(sepn. of, from butylamine)
IT 109-73-9
(sepn. of, from tert-butylamine)
IT 60-34-4
(sepn. of, ligand exchange)

=> d bib ab it l29 1-2

L29 ANSWER 1 OF 2 COPYRIGHT 1992 ACS
AN CA112(11):99113e
TI Michael addition reactions of .alpha.,.beta.-ene-3'-phenylselenone of uridine. New synthesis of 2',3'-dideoxy-ribo-**aziridino**-, 2',3'-dideoxy-2',3'-ribo-cyclopropyl-, and 2,2'-O-anhydro-3'-deoxy-3'-aminouridine derivatives
AU Wu, J. C.; Chattopadhyaya, J.
CS Biomed. Cent., Univ. Uppsala
LO Uppsala S-751 23, Swed.
SO Tetrahedron, 45(14), 4507-22
SC 33-9 (Carbohydrates)
DT J
CO TETRAB
IS 0040-4020
PY 1989
LA Eng
OS CASREACT 112:99113
AB A high-yielding synthesis of 1-[5'-O-(4-monomethoxytrityl)-2',3'-dideoxy-3'-phenylselenonyl-.beta.-D-glycero-pent-2'-enofuranosyl]uracil [I; R = monomethoxytrityl; (II)] is described starting from 5'-O-(4-monomethoxytrityl)-2',3'-O-anhydro-.beta.-D-lyxofuranosyl uracil. II can be easily deprotected to I (R = H). The synthetic utilities of I as synthetic equiv. of a dication [CH2+-CH2+] have been demonstrated from the fact that they act as Michael acceptors and undergo conjugate addn. reactions at C-2' with ammonia, methylamine, benzylamine and glycine Me ester, followed by a direct intramol. SN2 type displacement reaction at C-3' in the adduct, to give various 2',3'-dideoxy-ribo-**aziridino** uridines III (R1 = H, Me, PhCH2, CH2CO2Me) while dimethylamine, pyrrolidine, and morpholine give 2,2'-O-anhydro-3'-deoxy-3'-substituted-aminouridines. Carbon-nucleophiles such as sodium Me malonate and conjugate bases of nitromethane and acetophenone upon reaction with II provides a convenient access to 2',3'-dideoxy-2',3'-cyclopropyl(bicyclo[3.1.0] system) derivs. of uridine IV (R2 = H, R3 = NO2, COPh; R2 = R3 = CO2Me) while a reaction of II with methylacetoacetate gives an unusual 2',3'-fused furano(bicyclo[3.3.0] system) deriv. The methodol. described herein constitute a new general approach to functionalize the 2'- and 3'-carbons of .beta.-D-nucleosides simultaneously. All new

2',3'-disubstituted nucleosides with free 5'-hydroxyl group are potential inhibitors of HIV-specific reverse transcriptase.

IT Nucleosides, reactions
(functionalization of, at 2'- and 3'-carbons)

IT Michael reaction
(of ene-phenylselenone of uridine)

IT 74-89-5, Methylamine, reactions
(addn. reaction of, with (dideoxy(phenylselenoyl)pentenofuranosyl)uracil)

IT 100-46-9, Benzylamine, reactions 5680-79-5, Methyl glycinate hydrochloride
(addn. reaction of, with [dideoxy(phenylselenonyl)pentenofuranosyl]uracil)

IT 125417-91-6
(anhydro ring cleavage of, with di-Ph diselenide and lithium aluminum hydride)

IT 125417-97-2P
(prepn. and addn. reactions of)

IT 125417-98-3P 125417-99-4P 125418-00-0P 125418-01-1P
125418-02-2P 125418-03-3P 125418-04-4P 125418-06-6P
125418-07-7P 125418-09-9P
(prepn. and detritylation of)

IT 125417-96-1P
(prepn. and detritylation or addn. reactions of)

IT 125417-94-9P
(prepn. and elimination of mesyloxy group from)

IT 125417-93-8P
(prepn. and mesylation of)

IT 125417-95-0P
(prepn. and oxidn. of)

IT 69093-67-0P 125417-92-7P 125418-05-5P 125418-08-8P
125418-10-2P 125418-11-3P 125418-12-4P 125418-13-5P
125418-14-6P 125418-15-7P 125418-16-8P 125418-17-9P
125418-18-0P 125418-19-1P 125418-20-4P
125418-21-5P 125437-57-2P
(prepn. of)

IT 110-91-8, Morpholine, reactions 123-75-1, Pyrrolidine, reactions
(reaction of, with [(phenylselenonyl)dideoxypentenofuranosyl]uracil)

IT 124-40-3, Dimethylamine, reactions
(reaction of, with [dideoxy(phenylselenoyl)pentenofuranosyl]uracil)

IT 1666-13-3, Diphenyl diselenide
(reaction of, with lithium aluminum hydride and (anhydrolyxofuranosyl)uracil)

IT 75-52-5, Nitromethane, reactions 98-86-2, Acetophenone, reactions
105-45-3, Methyl acetoacetate 108-59-8, Dimethyl malonate
(reaction of, with potassium tert-butoxide and [(phenylselenonyl)dideoxypentenofuranosyl]uracil)

L29 ANSWER 2 OF 2

KUNZ 652978

AN CA90(21):168884y
TI Nucleic acid related compounds. 30. Transformations of adenosine to the first 2',3'-**aziridine**-fused nucleosides, 9-(2,3-epimino-2,3-dideoxy-.beta.-D-ribofuranosyl)adenine and 9-(2,3-epimino-2,3-dideoxy-.beta.-D-lyxofuranosyl)adenine
AU Robins, Morris J.; Hawrelak, S. D.; Kanai, Tadashi; Siefert, Jan Marcus; Mengel, Rudolf
CS Dep. Chem., Univ. Alberta
LO Edmonton, Alberta, Can.
SO J. Org. Chem., 44(8), 1317-22
SC 33-7 (Carbohydrates)
SX 22, 27, 28
DT J
CO JOCEAH
IS 0022-3263
PY 1979
LA Eng
AB Treatment of 9-(2,3-anhydro-.beta.-D-lyxofuranosyl)- and 9-(2,3-anhydro-.beta.-D-ribofuranosyl)adenine with azide gave 9-(3-azido-3-deoxy-.beta.-D-arabinofuranosyl)- and 9-(3-azido-3-deoxy-.beta.-D-xylofuranosyl)adenine in good yields plus minor quantities of the 2'-azido substitution products. Selective protection of the 5'-OH function, mesylation or tosylation of the 2'-OH group, and redn. of the resulting trans-3'-azido-2'-sulfonate ester with intramol. displacement-cyclization provided the resp. fused-ring **aziridine** products, 9-(2,3-epimino-2,3-dideoxy-.beta.-D-ribofuranosyl)- and 9-(2,3-epimino-2,3-dideoxy-.beta.-D-lyxofuranosyl)adenine. Unusual UV, CD, and 1H NMR spectral properties of these bicyclo[3.1.0] sugar-nucleoside systems are discussed.
IT Ring closure and formation
(of 3'-amino or 3'-azido nucleosides, **aziridine**-fused nucleosides from)
IT Circular dichroism
(of fused **aziridine**-furanosyl nucleosides)
IT Nucleosides, preparation
(prepn. of **aziridine** moiety contg.)
IT **68950-30-1P 68950-31-2P**
(prepn. and CD of)
IT 68950-28-7P
(prepn. and NMR of)
IT 68965-90-2P
(prepn. and catalytic hydrogenation of)
IT 68965-23-1P 68965-89-9P
(prepn. and cyclization of, **aziridine** deriv. from)
IT 68950-29-8P
(prepn. and deblocking of)
IT 68950-24-3P
(prepn. and deprotection of)
IT 68950-23-2P
(prepn. and detritylation of)

IT 68950-21-0P
(prepn. and methylation of)
IT 51014-75-6P
(prepn. and protection of)
IT 68950-27-6P
(prepn. and redn. of)
IT 68950-25-4P 68950-26-5P 68975-02-0P
(prepn. and reductive cyclization of, **aziridine** deriv. from)
IT 68950-22-1P
(prepn. and tosylation of)
IT 26315-51-5P 68950-32-3P 68965-88-8P
(prepn. of)
IT 29411-70-9P
(prepn., protection, and catalytic hydrogenation of)
IT 2627-64-7
(reaction of, with sodium azide)

=> fil reg
FILE 'REGISTRY' ENTERED AT 10:34:11 ON 16 NOV 92
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

STRUCTURE FILE UPDATES: 13 NOV 92 HIGHEST RN 144489-44-1
DICTIONARY FILE UPDATES: 15 NOV 92 HIGHEST RN 144489-44-1

=> d que l20
L20 1 SEA FILE=REGISTRY 151-56-4

=> d l20

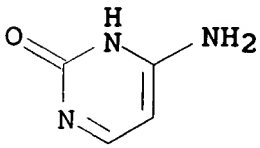
L20 ANSWER 1 OF 1 COPYRIGHT 1992 ACS
RN **151-56-4** REGISTRY
CN Aziridine (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Ethylenimine (8CI)
OTHER NAMES:
CN Azacyclopropane
CN Aziran
CN Dimethylenimine
CN EI
CN Ethyleneimine
CN Fast MEG
FS 3D CONCORD
DR 99932-76-0
MF C2 H5 N
CI COM, RPS
LC ANABSTR, BEILSTEIN, BIOSIS, CA, CAOLD, CASREACT, CHEMLIST, CIN, CJACS, CSCHEM, CSNB, DIPPR, EINECS, EMBASE, GMELIN, HODOC, IFICDB, IFIPAT, IFIUDB, MEDLINE, NDSL, PDLCOM, RTECS, SPECINFO, TSCA, VTB

REFERENCES IN FILE CAOLD (PRIOR TO 1967)
2801 REFERENCES IN FILE CA (1967 TO DATE)

=> d que l21
L21 1 SEA FILE=REGISTRY CYTOSINE/CN

=> d l21

L21 ANSWER 1 OF 1 COPYRIGHT 1992 ACS
RN 71-30-7 REGISTRY
CN 2(1H)-Pyrimidinone, 4-amino- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Cytosine (8CI)**
OTHER NAMES:
CN 4-Amino-2(1H)-pyrimidinone
CN 4-Amino-2-hydroxypyrimidine
CN Cytosinimine
FS 3D CONCORD
DR 66322-75-6, 118511-36-7, 504-05-2, 14987-28-1, 26661-23-4
MF C4 H5 N3 O
CI COM
LC ANABSTR, BEILSTEIN, BIOSIS, CA, CAOLD, CASREACT, CHEMLIST, CIN, CJACS, CSCHEM, CSNB, DSL, EINECS, EMBASE, GMELIN, HODOC, IFICDB, IFIPAT, IFIUDB, MEDLINE, RTECS, SPECINFO, TSCA

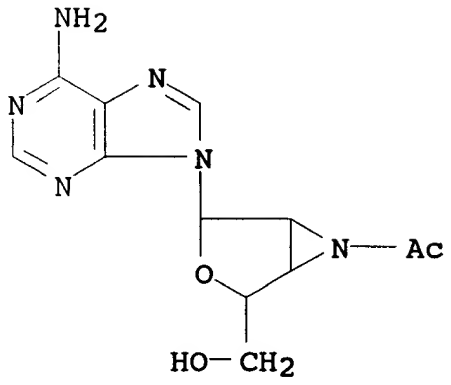


REFERENCES IN FILE CAOLD (PRIOR TO 1967)
3209 REFERENCES IN FILE CA (1967 TO DATE)

=> d l14 ide can 1 3 5 7 9 12

L14 ANSWER 1 OF 12 COPYRIGHT 1992 ACS
RN 143992-85-2 REGISTRY
CN 3-Oxa-6-azabicyclo[3.1.0]hexane-2-methanol, 6-acetyl-4-(6-amino-9H-purin-9-yl)-, [1R-(1.alpha.,2.beta.,4.beta.,5.alpha.)]- (9CI) (CA INDEX NAME)
MF C12 H14 N6 O3
SR CA

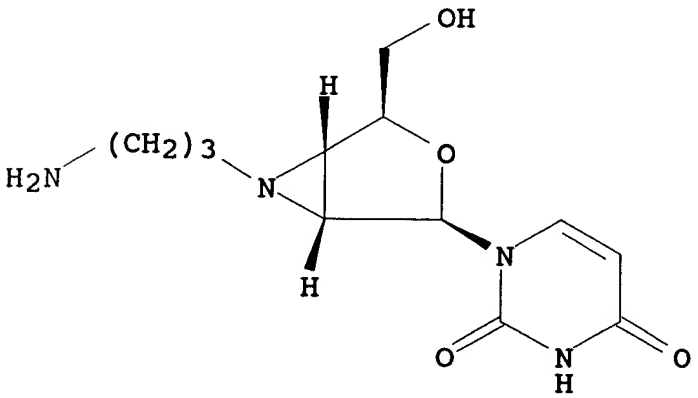
DES 5:B-D-LYXO



0 REFERENCES IN FILE CA (1967 TO DATE)

L14 ANSWER 3 OF 12 COPYRIGHT 1992 ACS
RN 129928-77-4 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[6-(3-aminopropyl)-4-(hydroxymethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C12 H18 N4 O4
SR CA
LC CA
DES *

Absolute stereochemistry.

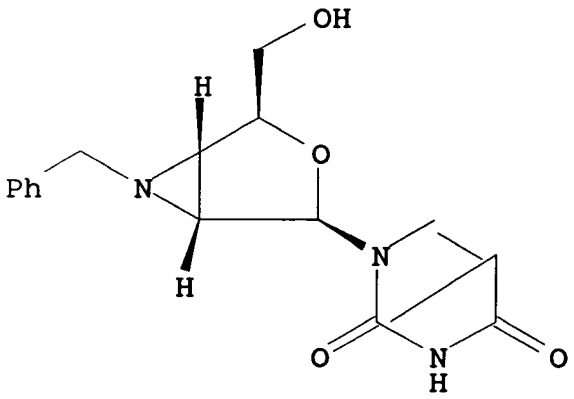


1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA113(21):191825g

L14 ANSWER 5 OF 12 COPYRIGHT 1992 ACS
RN 125418-20-4 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[4-(hydroxymethyl)-6-(phenylmethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C16 H17 N3 O4
SR CA
LC CA, CASREACT
DES *

Absolute stereochemistry.

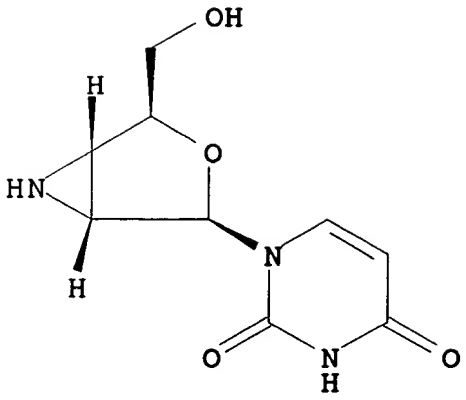


1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA112(11):99113e

L14 ANSWER 7 OF 12 COPYRIGHT 1992 ACS
RN 125418-18-0 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[4-(hydroxymethyl)-3-oxa-6-azabicyclo[3.1.0]hex-2-yl]-, [1R-(1.alpha.,2.alpha.,4.alpha.,5.alpha.)]- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, 2,4(1H,3H)-pyrimidinedione deriv. (9CI)
MF C9 H11 N3 O4
SR CA
LC CA, CASREACT, CJACS
DES *

Absolute stereochemistry.



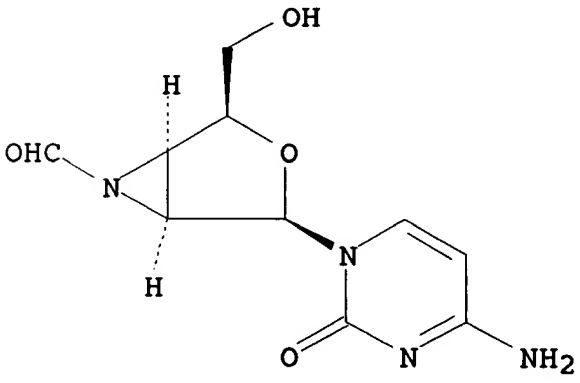
2 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA115(23):256526y

REFERENCE 2: CA112(11):99113e

L14 ANSWER 9 OF 12 COPYRIGHT 1992 ACS
RN 124166-00-3 REGISTRY
CN 3-Oxa-6-azabicyclo[3.1.0]hexane-6-carboxaldehyde,
2-(4-amino-2-oxo-1(2H)-pyrimidinyl)-4-(hydroxymethyl)-,
(1.alpha.,2.beta.,4.beta.,5.alpha.)- (9CI) (CA INDEX NAME)
MF C10 H12 N4 O4
SR CA
LC CA
DES *

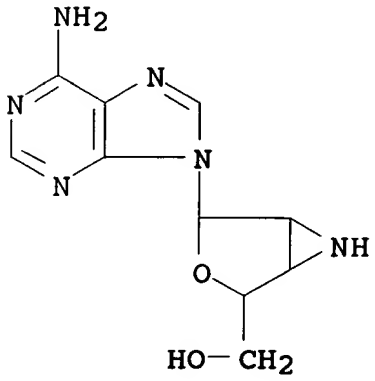
Relative stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: P CA112(1):656z

L14 ANSWER 12 OF 12 COPYRIGHT 1992 ACS
RN 68950-30-1 REGISTRY
CN Adenosine, 2',3'-dideoxy-2',3'-imino- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 3-Oxa-6-azabicyclo[3.1.0]hexane, adenosine deriv. (9CI)
MF C10 H12 N6 O2
LC BEILSTEIN, CA
DES 5:B-D-RIBO



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: CA90(21):168884y